

FIG. 1A

gggcaggaagacggcgctgcccgaggagc																				-153
ggggcgggcgggcgcgggggagcgggcgggcgggcgggagccagggcgggcgggcgggcgggcgggcgggcg																				-77
aagaggcgggcgggcgcgctccggcggtctgcgggcgttggccttggctttggctttggcgggcgggcggtggagaag																				-1
ATG	CTG	CAG	TCC	CTG	GCC	GGC	AGC	TCG	TGC	GTG	CGC	CTG	GTG	GAG	CGG	CAC	CGC	TCG		57
M	L	Q	S	L	A	G	S	S	C	V	R	L	V	E	R	H	R	S		19
GCC	TGG	TGC	TTC	GGC	TTC	CTG	GTG	CTG	GGC	TAC	TTG	CTC	TAC	CTG	GTC	TTC	GGC	GCA		114
A	W	C	F	G	F	L	V	L	G	Y	L	L	Y	L	V	F	G	A		38
GTG	GTC	TTC	TCC	TCG	GTG	GAG	CTG	CCC	TAT	GAG	GAC	CTG	CTG	CGC	CAG	GAG	CTG	CGC		171
V	V	F	S	S	V	E	L	P	Y	E	D	L	L	R	Q	E	L	R		57
AAG	CTG	AAG	CGA	CGC	TTC	TTG	GAG	GAG	CAC	GAG	TGC	CTG	TCT	GAG	CAG	CAG	CTG	GAG		228
K	L	K	R	R	F	L	E	E	H	E	C	L	S	E	Q	Q	L	E		76
CAG	TTC	CTG	GGC	CGG	GTG	CTG	GAG	GCC	AGC	AAC	TAC	GGC	GTG	TCG	GTG	CTC	AGC	AAC		285
Q	F	L	G	R	V	L	E	A	S	N	Y	G	V	S	V	L	S	N		95
GCC	TCG	GGC	AAC	TGG	AAC	TGG	GAC	TTC	ACC	TCC	GCG	CTC	TTC	TTC	GCC	AGC	ACC	GTG		342
A	S	G	N	W	N	W	D	F	T	S	A	L	F	F	A	S	T	V		114
CTC	TCC	ACC	ACA	GGT	TAT	GGC	CAC	ACC	GTG	CCC	TTG	TCA	GAT	GGA	GGT	AAG	GCC	TTC		399
L	S	T	T	G	Y	G	H	T	V	P	L	S	D	G	G	K	A	F		133
TGC	ATC	ATC	TAC	TCC	GTC	ATT	GGC	ATT	CCC	TTC	ACC	CTC	CTG	TTC	CTG	ACG	GCT	GTG		456
C	I	I	Y	S	V	I	G	I	P	F	T	L	L	F	L	T	A	V		152
GTC	CAG	CGC	ATC	ACC	GTG	CAC	GTC	ACC	CGC	AGG	CCG	GTC	CTC	TAC	TTC	CAC	ATC	CGC		513
V	Q	R	I	T	V	H	V	T	R	R	P	V	L	Y	F	H	I	R		171
TGG	GGC	TTC	TCC	AAG	CAG	GTG	GTG	GCC	ATC	GTC	CAT	GCC	GTG	CTC	CTT	GGG	TTT	GTG		570
W	G	F	S	K	Q	V	V	A	I	V	H	A	V	L	L	G	F	V		190
ACT	GTG	TCC	TGC	TTC	TTC	TTC	ATC	CCG	GCC	GCT	GTC	TTC	TCA	GTC	CTG	GAG	GAT	GAC		627
T	V	S	C	F	F	F	I	P	A	A	V	F	S	V	L	E	D	D		209

FIG. 1B-1

TGG AAC TTC CTG GAA TCC TTT TAT TTT TGT TTT ATT TCC CTG AGC ACC ATT GGC CTG	684
W N F L E S F Y F C F I S L S T I G L	228
GGG GAT TAT GTG CCT GGG GAA GGC TAC AAT CAA AAA TTC AGA GAG CTC TAT AAG ATT	741
G D Y V P G E G Y N Q K F R E L Y K I	247
GGG ATC ACG TGT TAC CTG CTA CTT GGC CTT ATT GCC ATG TTG GTA GTT CTG GAA ACC	798
G I T C Y L L L G L I A M L V V L E T	266
TTC TGT GAA CTC CAT GAG CTG AAA AAA TTC AGA AAA ATG TTC TAT GTG AAG AAG GAC	855
F C E L H E L K K F R K M F Y V K K D	285
AAG GAC GAG GAT CAG GTG CAC ATC ATA GAG CAT GAC CAA CTG TCC TTC TCC TCG ATC	912
K D E D Q V H I I E H D Q L S F S S I	304
ACA GAC CAG GCA GCT GGC ATG AAA GAG GAC CAG AAG CAA AAT GAG CCT TTT GTG GCC	969
T D Q A A G M K E D Q K Q N E P F V A	323
ACC CAG TCA TCT GCC TGC GTG GAT GGC CCT GCA AAC CAT TGA gcgtaggattgttgcatt	1030
T Q S S A C V D G P A N H *	337
atgctagagcaccagggtcaggggtgcaaggaagaggcttaagtatgttcatttttatcagaatgcaaaagcgaaaa	1106
ttatgtcactttaagaaatagctactgtttgcaatgtcttattaaaaacaacaaaaaaagacacatggaacaaag	1182
aagctgtgacccagcaggatgtctaataatgtgaggaaatgagatgtccacctaaaattcatatgtgacaaaatta	1258
tctcgaccttacataggaggagaataacttgaagcagatgctgctgtggttagaagcagattttataacttttaact	1334
ggaaactttggggtttgcattttagatcattttagctgatggctaaatagcaaaatttatatttagaagcaaaaaaa	1410
aaagcatagagatgtgttttataaatagggttatgtgtactgggtttgcatgtaccacccaaaatgattattttg	1486
gagaatctaagtcaaactcactatttataatgcataggtaaccattaactatgtacatataaagtataaatatgtt	1562
tatattctgtacatatggtttaggtcaccagatcctagtgtagtctgaaactaagactatagatattttgtttct	1638
tttgatttctctttataactaaagaatccagagttgctacaataaaataaggggaataataaaaaaaaaaaaaa	1712

FIG. 1B-2

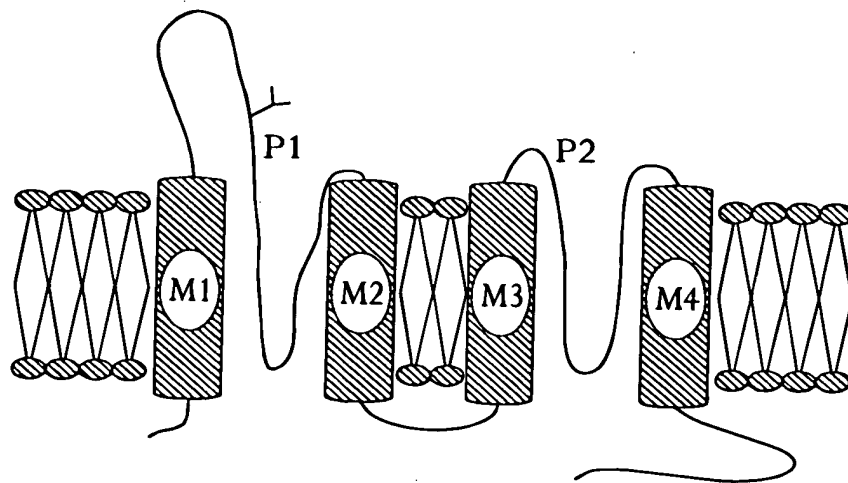
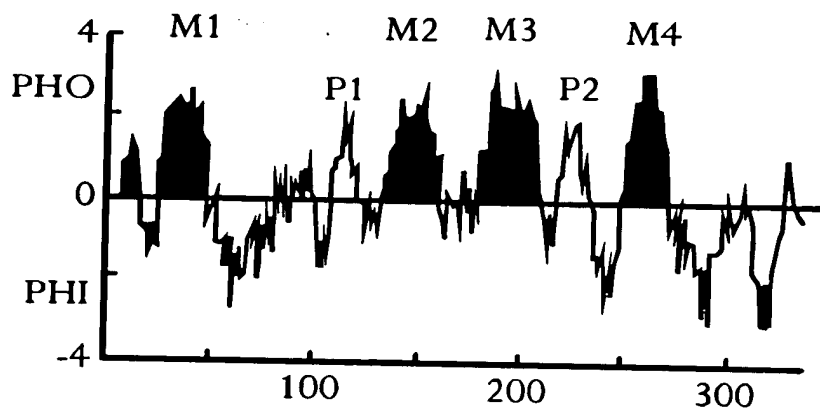


FIG. 1C

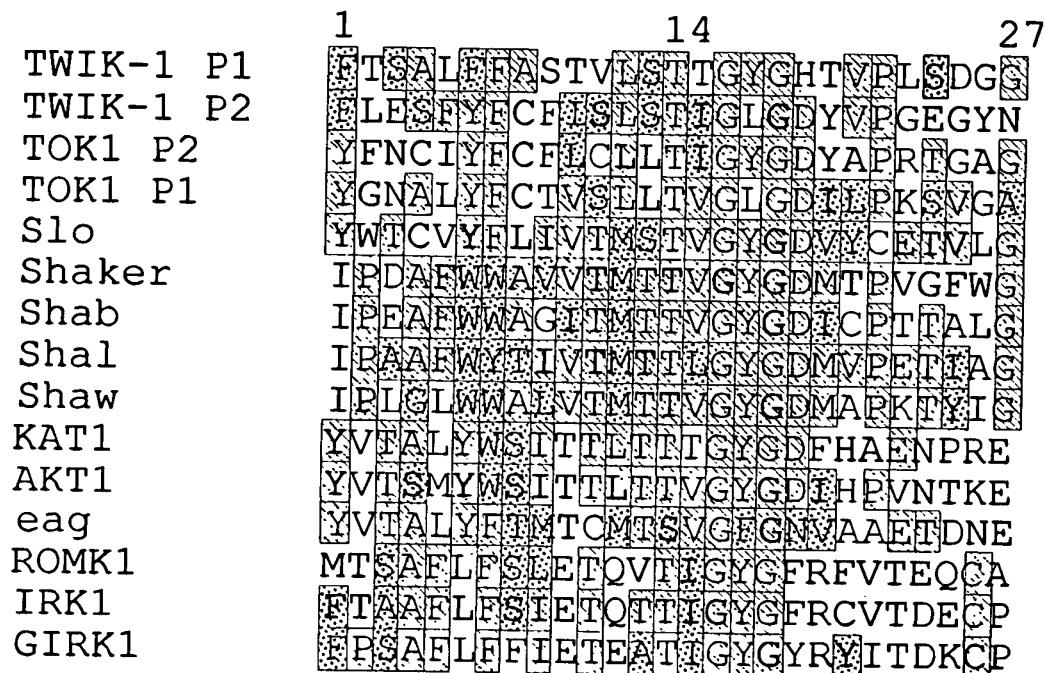


FIG. 2A

TWIK-1	1	MLOSLAGSSCVREVE-----RHREAWCF--GE-----LVLCY
f17c8	1	MYTDESEYSGDTHDGGSTMQKMSPNTRONFRQNVNVVCLSAATL
M110-2	1	MTVSMEENSKFOMESATSKDKKVATDRSLLNKYHLGPIAHITGIVESC
TWIK-1	31	LEYLWFGAVVFSVELPYEDLLROE-----LRKIKRRELEEHFC---L
f17c8	47	LVNLIAGAGEF-----LALTONSSSES
M110-2	49	MTYALGGAYEFLSIEHP-EELKRREKAIREFQDILKQDMCNITSGIEN
TWIK-1	71	SEOOLEOELGRVL-----EASNYGVSVLSNASGNWNW--DETSALE
f17c8	69	LNENSEV--SKCLHNLPIGGKITAEKMSKLGCELRSSRIDGFGKALF
M110-2	96	SEOSTELEYTKKELMLEDAHNAHAEEYFFLNELPKDMW--TFSSALV
P1		
TWIK-1	110	EASTVSTTGYGHTVPESDGGKAFCLN-VSWEGIPFTLRKAVVORI
f17c8	115	EWNTLYSTVGYGSEKPHSTLGRYETIF-YSLMDPVFIARKFEFGTEL
M110-2	142	FEETTVIPVGYGYEPPVSAYGR-MCLLAYALLGIPETLVTMADTGKFA
TWIK-1	157	TVH---VTRRPVL-----YETIRWGESKOVATLYHAVLLGEATVSCFF
f17c8	162	AHFLVVVENRTREAVKKAYKKS-QNPENAEETPSNSEDHDIIFLSSI
M110-2	189	AQL---VTR-----W-EGDNMAIPAAEFV-----CLL
P2		
TWIK-1	197	FE-PAAVFS--VL--EDDWNLESEFYECFISESTIGESDYVRGEGYN
f17c8	209	LLCSSELSSSAEFSSENISSYESSYKRGNTMELIGIGDIPTN---
M110-2	213	FAYPLAVGF--LCSTSNITGLDSVYESITSITIGFGDLTP-----
TWIK-1	239	QKFRLEYKIGETCYLELGLLAMEVDETFC-----EHEELKKER-----
f17c8	254	-----LVWFSGYCMLEFLISDYENOLFYFCQARVRYFFHILARKEL
M110-2	253	-----DMNVTHMVLAVGVLLVTEEDIVA---AEMIDRVHYNGRHVG
TWIK-1	278	-----KMEYVKKDKEDDOVHTEHDOL-----SESSETDOAGNKEED
f17c8	295	LLRE-EDDGFOLETNLSLOHPNINSQCMPSL---VLDCEKEELDND
M110-2	294	KAKELAGKMFOLAQSLNKKOGLVSGVGOLHALAREGMLVGREEDVKIQ
TWIK-1	315	OKONEPFFVAT-----QSSACVDGPANH----
f17c8	338	EKLISLET-----
M110-2	342	EDGLIAFSPDVMDGLEFMDTLISIYSRRSRRSAENSARNLFLS

FIG. 2B

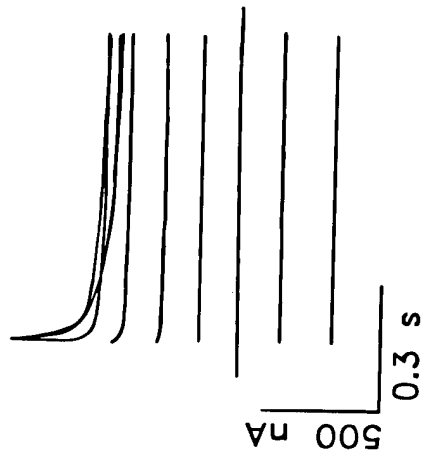


FIG. 3A

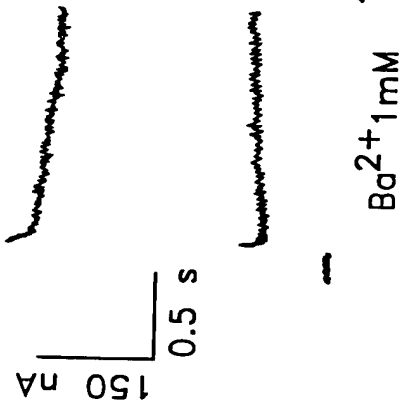


FIG. 3D

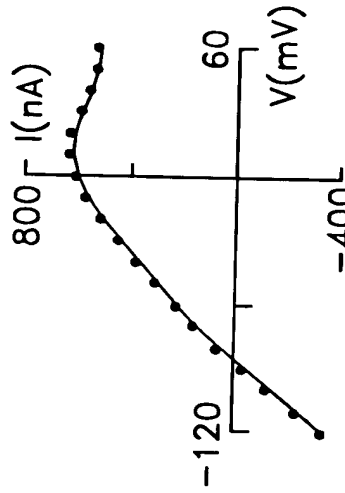


FIG. 3B

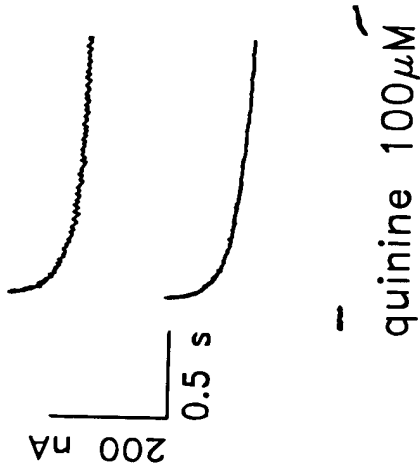


FIG. 3E

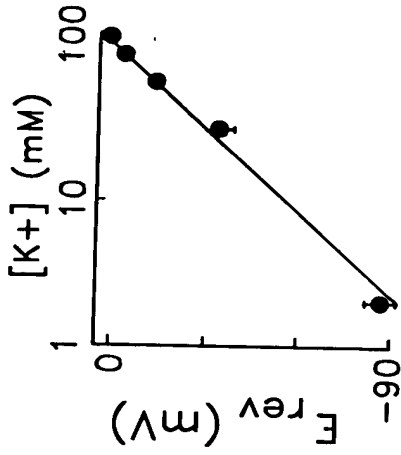


FIG. 3C

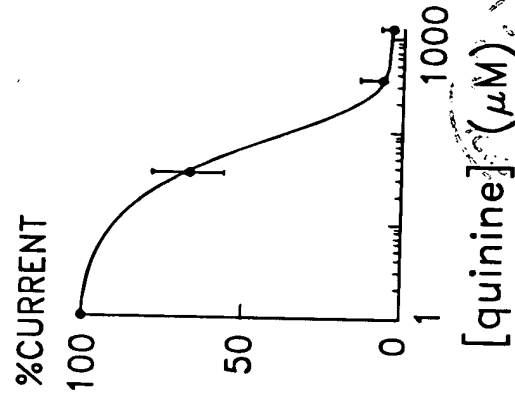


FIG. 3F

FIG. 4A

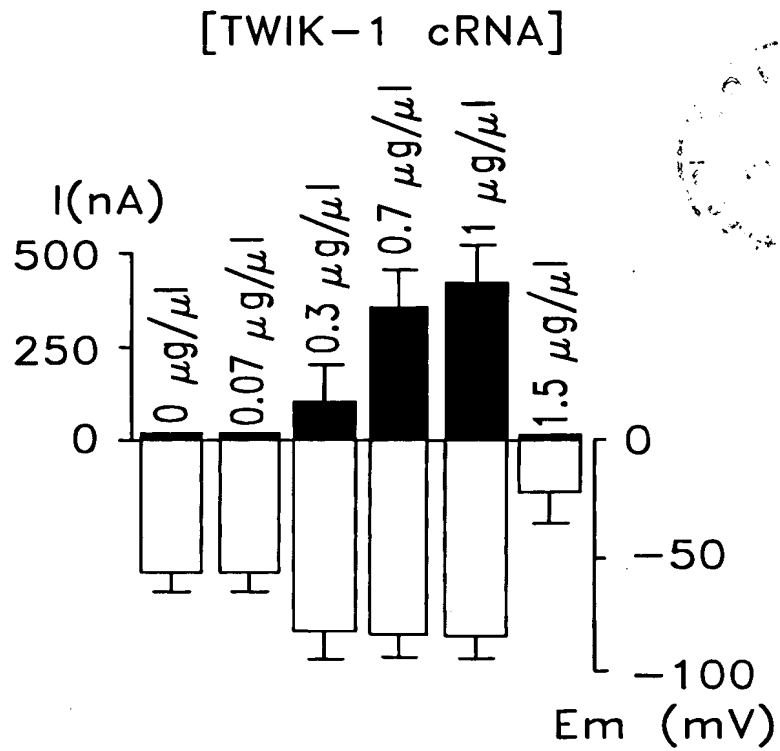


FIG. 4B

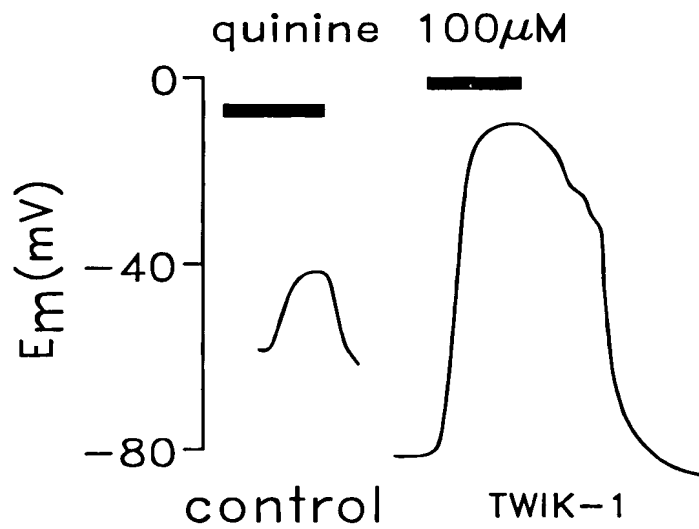
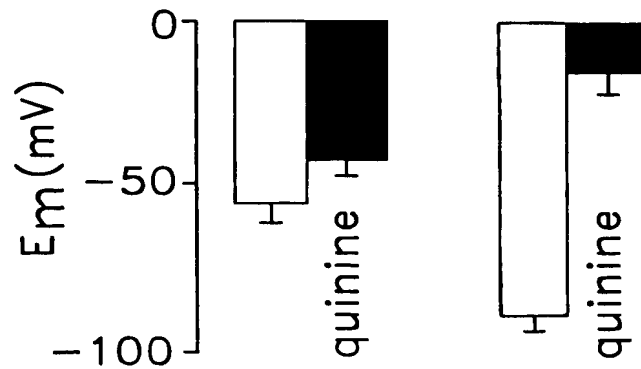


FIG. 4C





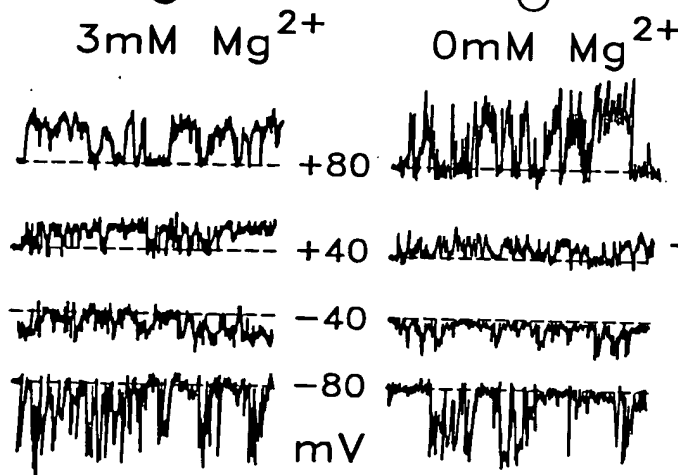


FIG. 5A

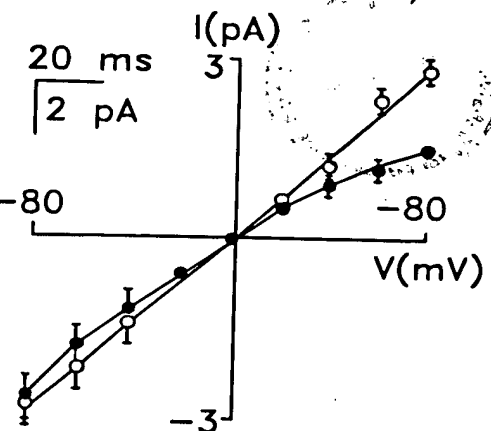


FIG. 5B

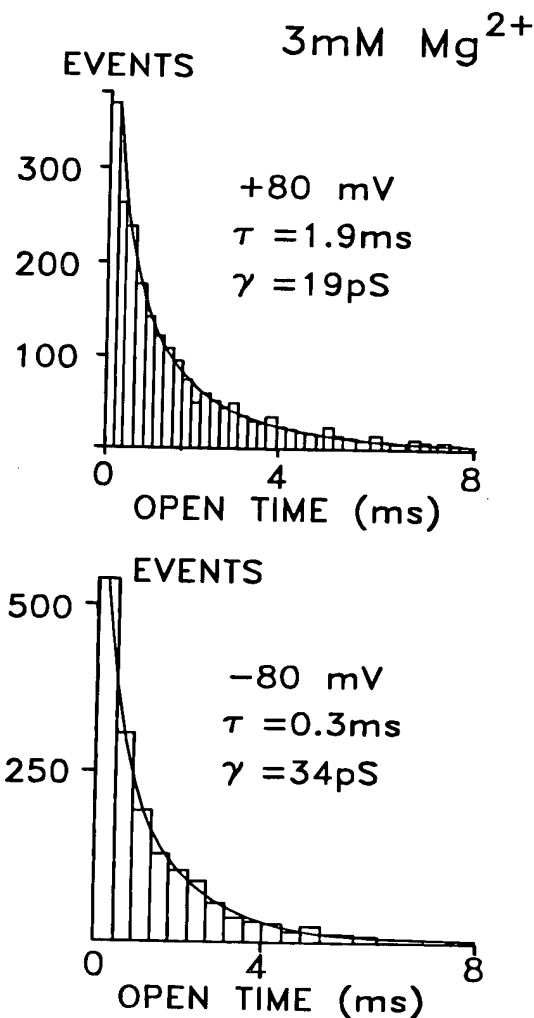


FIG. 5C

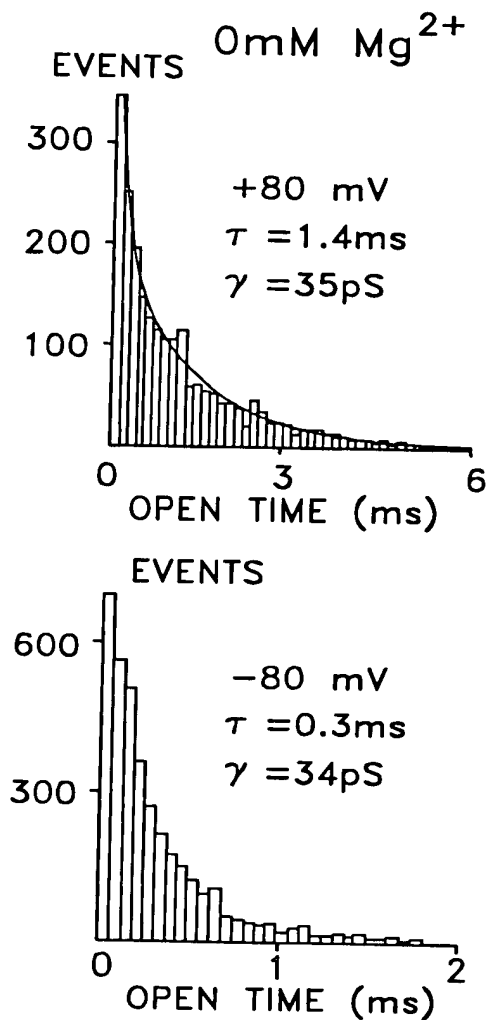


FIG. 5D

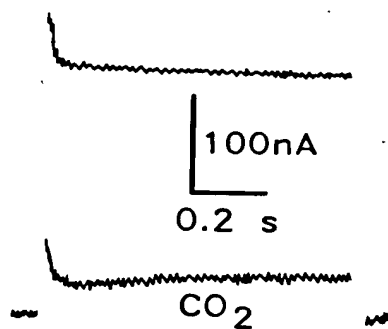


FIG. 6A

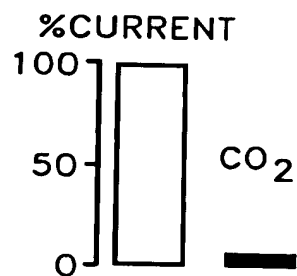


FIG. 6B

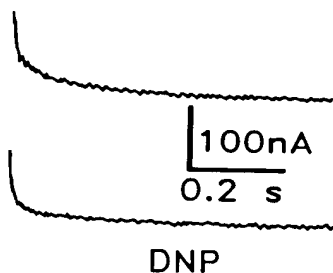


FIG. 6C

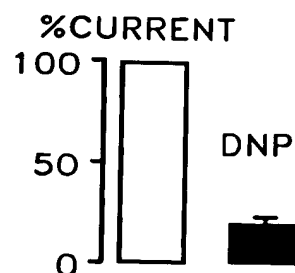


FIG. 6D

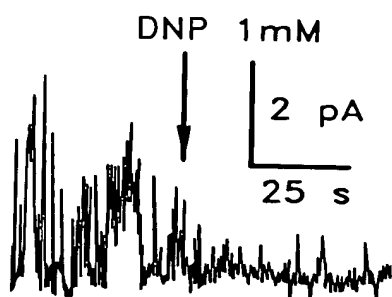


FIG. 6E

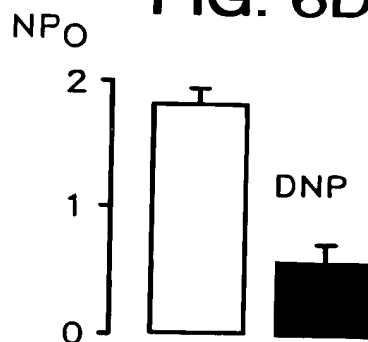


FIG. 6F

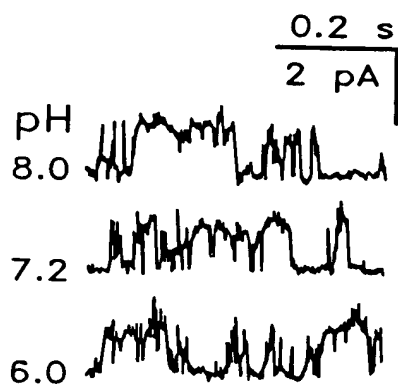


FIG. 6G

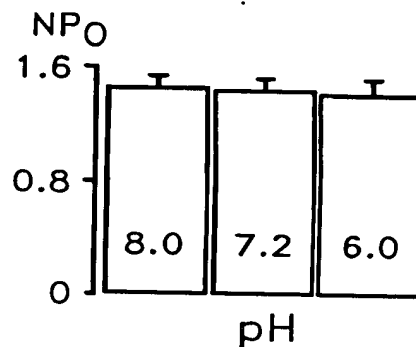


FIG. 6H

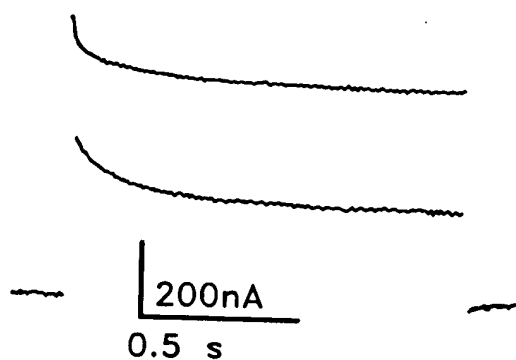


FIG. 7A

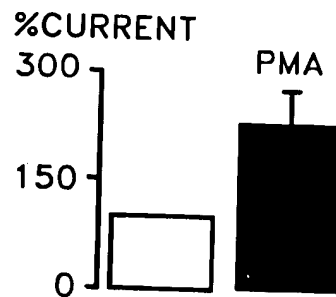


FIG. 7B

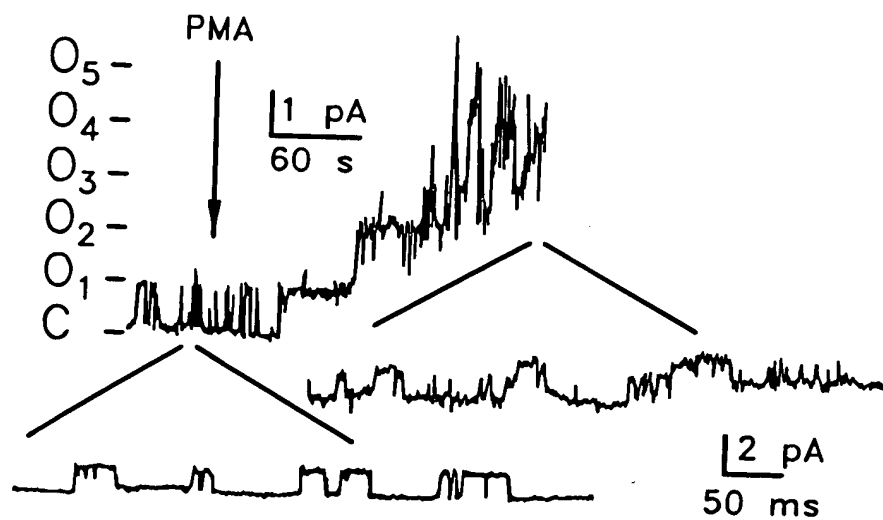


FIG. 7C

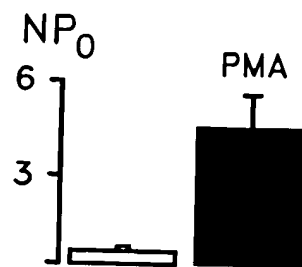


FIG. 7D

tgccctgcgcggatagcggcgagcgcagccatgccccagggcgcctccg -77  
gggcagcagcagcggcgccggggccgatgcgcggggccggggcgccggggggccggcgggccggggggcg -1

ATG AAG CGG CAG AAC GTG CGC ACG CTG GCG CTC ATC GTG TGC ACC TTC ACC TAC CTG 57  
M K R Q N V R T L A L I V C T F T Y L 19  
E N V R T L A L I V C T F T Y L

CTG GTG GGC GCC GCG GTC TTC GAC GCG CTG GAG TCG GAG CCC GAG CTG ATC GAG CGG 114  
L V G A A V F D A L E S E P E L I E R 38  
L V G A A V F D A L E S E P E M I E R

CAG CGG CTG GAG CTG CGG CAG CAG GAG CTG CGG GCG CGC TAC AAC CTC AGC CAG GGC 171  
Q R L E L R Q Q E L R A R Y N L S Q G 57  
Q R L E L R Q L E L R A R Y N L S E G  
\*

GGC TAC GAG GAG CTG GAG CGC GTC GTG CTG CGC CTC AAG CCG CAC AAG GCC GGC GTG 228  
G Y E E L E R V V L R L K P H K A G V 76  
G Y E E L E R V V L R L K P H K A G V

CAG TGG CGC TTC GCC GGC TCC TTC TAC TTC GCC ATC ACC GTC ATC ACC ACC ATC GGC 285  
Q W R F A G S F Y F A I T V I T T I G 95  
Q W R F A G S F Y F A I T V I T T I G

TAC GGG CAC GCG GCA CCC AGC ACG GAT GGC GGC AAG GTG TTC TGC ATG TTC TAC GCG 342  
Y G H A A P S T D G G K V F C M F Y A 114  
Y G H A A P S T D G G K V F C M F Y A

CTG CTG GGC ATC CCG CTC ACG CTC GTC ATG TTC CAG AGC CTG GGC GAG CGC ATC AAC 399  
L L G I P L T L V M F Q S L G E R I N 133  
L L G I P L T L I M F Q S L G E R I N

ACC TTG GTG AGG TAC CTG CTG CAC CGC GCC AAG AAG GGG CTG GGC ATG CGG CGC GCC 456  
T L V R Y L L H R A K K G L G M R R A 152  
T E V R Y L L H R A K B G L G M R H A

GAC GTG TCC ATG GCC AAC ATG GTG CTC ATC GGC TTC TTC TCG TGC ATC AGC ACG CTG 513  
D V S M A N M V L I G F F S C I S T L 171  
E V S M A N M V L I G F V S C I S T L

TGC ATC GGC GCC GCC GCC TTC TCC CAC TAC GAG CAC TGG ACC TTC TTC CAG GCC TAC 570  
C I G A A A F S H Y E H W T F F Q A Y 190  
C I G A A A F S X Y E B W T F F Q A Y

TAC TAC TGC TTC ATC ACC CTC ACC ACC ATC GGC TTC GGC GAC TAC GTG GCG CTG CAG 627  
Y Y C F I T L T T I G F G D Y V A L Q 209  
Y Y C F I T L T T I G F G D Y V A L Q

AAG GAC CAG GCC CTG CAG ACG CAG CCG CAG TAC GTG GCC TTC AGC TTC GTC TAC ATC 684  
K D Q A L Q T Q P Q Y V A F S F V Y I 228  
K D Q A L Q T Q P Q Y V A F S F V Y I

CTT ACG GGC CTC ACG GTC ATC GGC GCC TTC CTC AAC CTC GTG GTG CTG CGC TTC ATG 741  
L T G L T V I G A F L N L V V L R F M 247  
L T G L T V I G A F L N L V V L R F M

FIG. 8A

ACC	ATG	AAC	GCC	GAG	GAC	GAG	AAG	CGC	GAC	GCC	GAG	CAC	CGC	GCG	CTG	CTC	ACG	CGC	798
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	R	266
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	H	
AAC	GGG	CAG	GCG	GGC	GGC	GGC	GGA	GGG	GGT	GGC	AGC	GCG	CAC	ACT	ACG	GAC	ACC	GCC	855
N	G	Q	A	G	G	G	G	G	G	G	S	A	H	T	T	D	T	A	285
N	G	Q	A	V	G	L	G	G	L	S	C	L	S	G	S	L	G	D	
TCA	TCC	ACG	GCG	GCA	GCG	GGC	GGC	GGC	GGC	TTC	CGC	AAC	GTC	TAC	GCG	GAG	GTG	CTG	912
S	S	T	A	A	A	G	G	G	G	F	R	N	V	Y	A	E	V	L	304
VRPRDPV	TC	AA	A	A	G	G	V	G	V	G	G	S	G	F	R	N	V	Y	
CAC	TTC	CAG	TCC	ATG	TGC	TCG	TGC	CTG	TGG	TAC	AAG	AGC	CGC	GAG	AAG	CTG	CAG	TAC	969
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	323
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	
TCC	ATC	CCC	ATG	ATC	ATC	CCG	CGG	GAC	CTC	TCC	ACG	TCC	GAC	ACG	TGC	GTG	GAG	CAG	1026
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	Q	342
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	H	
AGC	CAC	TCG	TCG	CCG	GGA	GGG	GGC	GGC	CGC	TAC	AGC	GAC	ACG	CCC	TCG	CGA	CGC	TGC	1083
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	R	R	C	361
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	H	R	C	
CTG	TGC	AGC	GGG	GCG	CCA	CGC	TCC	GCC	ATC	AGC	TCG	GTG	TCC	ACG	GGT	CTG	CAC	AGC	1140
L	C	S	G	A	P	R	S	A	I	S	S	V	S	T	G	L	H	S	380
L	C	S	G	T	Q	R	S	A	I	S	S	V	S	T	G	L	H	S	
CTG	TCC	ACC	TTC	CGC	GGC	CTC	ATG	AAG	CGC	AGG	AGC	TCC	GTG	TGA	ctgccccgaggggacc				1200
L	S	T	F	R	G	L	M	K	R	R	S	S	V	*					395
L	A	A	F	R	G	L	M	K	R	R	S	S	V						
tggagc	acct	ggggg	gcg	gggg	ggggg	gacccct	gct	ggg	aggcc	caggag	actg	ccccct	gct	gcct	tct	gccc	agtg		1276
ggacccc	gcaca	acat	ccct	cacc	actct	cccc	cagc	accccc	atct	ccgact	gtgc	ctgct	tgcc	accag	ccggca				1352
ggaggcc	gggct	ctg	gagg	acccct	gggg	cccc	atcg	gagcc	ctgcaa	attcc	gagaa	atgt	gaaact	tgg	gggg				1428
tcaggg	agga	agc	agga	agct	ggg	agc	ctcc	cttcc	cttgg	aaaat	cta	aga	agct	ccc	agtc	ctc	agag	accc	1504
gctgg	tacc	acac	ccccc	acct	tcgg	agggg	actt	cat	gtt	ccgt	gtac	gtt	gcat	ctct	att	tata	acct	ctgt	1580
gctagg	tctccc	acct	tcct	tggt	tccaaa	agcc	aggg	gtgt	ctat	gttcca	agtc	acccc	tact	cage	cccc	actcc			1656
cctt	ctcat	cccc	agct	gtgt	ctcccc	acct	ccct	tcgt	gtt	gtt	gtt	gtcat	ggct	ttgc	agtt	tat	ggag	aaagt	1732
gaa	cccc	cagc	agtc	ccct	aaag	ctgg	tcccc	agaaa	gcagg	acagaa	aga	agg	agg	gac	aggc	agc	agc	agg	1808
gcg	agct	ggg	agg	cagg	aggc	agc	ggc	ctgt	ctc	agat	ctgc	aga	atgg	tcg	cact	ggag	gtt	caag	1884
cagcc	acatt	ctcat	agc	aggt	agg	actt	cagc	cttcc	agac	actg	ccct	taga	atct	gga	acaga	agact	tcaga		1960
ctc	accata	aatt	gct	gata	aatt	accc	actct	ttaa	attt	gtc	gagt	gatt	ttt	tag	cctct	gaaa	actct	atg	2036
cact	gatt	ccct	ttg	agt	ctc	acaaa	accct	actt	aggt	cat	caggg	cagg	agtt	ctc	cact	cccc	atttt	acag	2112
gaata	actg	aggc	ctgg	acag	gtga	agt	gacc	agag	gacaaa	agg	caa	agg	gggt	gggg	gct	gggt	gcag	tggt	2188
acct	gtatt	ccca	acact	ttt	ggagg	ctg	aggt	tgagg	attg	ctt	gag	ccc	agga	attc	gag	acc	agc	ctag	2264
acata	gtg	agac	cccat	ctct	acaaaa	ataaaaa	att	aacc	aggt	gtgt	ggc	acgt	gcct	ggg	agtc	ccc	agcga		2340
ctt	ggg	agg	ctg	aggt	ggg	agg	att	gtt	gtg	ac	ctggg	aggt	cgag	gtg	tag	gag	ccct	gatt	2416
ctcc	agc	ctgg	gtg	acag	ggga	agac	ccct	gtct	caaaaa	aaaaaaaa									2465

FIG. 8B

	1	-----MLQSLAGSSCVR-----LVERHRS---
	1	MAAPDELDPKSAQAQNSKPRLSFSSSKPTVLASRVESDSA
	1	-----MKR-----Q-NVR-----
		M1
TWIK-1	20	-----AWCFB-PLVLCGLLYLVGAIVFSSSELPEYEDLL
TREK-1	39	INVMKVKTYSTLFLVVLVLYLVGAIVFSSSELPEYEDLL
TASK	8	-----TLALLVCFVLYLVGAIVFSSSELPEYEDLL
		P1
TWIK-1	53	ROELRKLKRRFLERHECLSRQOLEQLGRVLEASNYGV
TREK-1	77	RTTLVIOKQTEIAQHACVNSTELDELQQAANASGI
TASK	38	RORLEERQOEERRARYNLSQGG-YEELERVVLRLKPKHA
		P2
TWIK-1	91	SVLGNASG-NWNWDFTSALFFASTVLSTGYGHVPPS
TREK-1	115	IPLGNSSNQVSHNDLSSSFFFACTVITTIGKLSPT
TASK	75	-----VQ-NREAFSFEATTVITTIGYGHVPPS
		M2
TWIK-1	128	DGGKAFCIYSLGIPETLLVAVVRI TVHVTR--R
TREK-1	153	DGGKAFCIYVALLGIPLVLLAVVRI TVHVTR--R
TASK	104	DGGKAFCIYVALLGIPLVLLAVVRI TVHVTR--R
		M3
TWIK-1	164	PVLYFHIKGGSKOVVAIVHAVLIGEVVYCFEIPAA
TREK-1	191	KVEDTFIKKNSQTKIRIISDFLFGCVFVAPAV
TASK	139	LTHRAKKGGSMRRADVSMANVLLIGEVVYCFEIPAA
		P3
TWIK-1	202	VFSVLEEDWNELESFYFCFISLITIGLDYVHGE-GYN
TREK-1	229	IFKHLEQ-NVSLDAIYFVITLTTIGFGDYVAG-GSD
TASK	177	AFSHYEH-VIFFOAXYCFITLTTIGFGDYVAOKDOA
		M4
TWIK-1	239	QKERELYKIGLTCYLLGLIAMLVLEETEGHHEKKF
TREK-1	264	IEYLDYKPVVMEWLGLAYFAVLSMIGDWLRVYSK
TASK	214	DOTOPQYVATSFVYILTGLTVIGAEINLVVIRFMTMNA
		P4
TWIK-1	277	RKMFYVKKDKD-----
TREK-1	302	KTKEEVGEFR-----
TASK	252	EDEKRDAEHRALLTRNGQAGGGGGGSAHTTDTASSTA
		P5
TWIK-1	288	-----EDQVHIIEHDQLSFSSITDOAAGMK--
TREK-1	312	-----AHAAEWTAHVTAEEKETRRRLSVEI--
TASK	290	AAGGGGFRNVYAELVHFQSMCSCLWYKSREKLQYSIPM
		P6
TWIK-1	313	---EDQKQNEPFFVATQSSACVDGPANH-----
TREK-1	337	---YDKFORATSVKRLSAELAGNHNQELTPCMRTCL-
TASK	328	IIPRDLSTSDTCVEQSHSSPGGGGRYSBTSPSRRLCLSG
		P7
TWIK-1	337	-----
TREK-1	371	-----
TASK	366	APRSAISSVSTGLHSLSTFRGLMKRRSSV

FIG. 9A

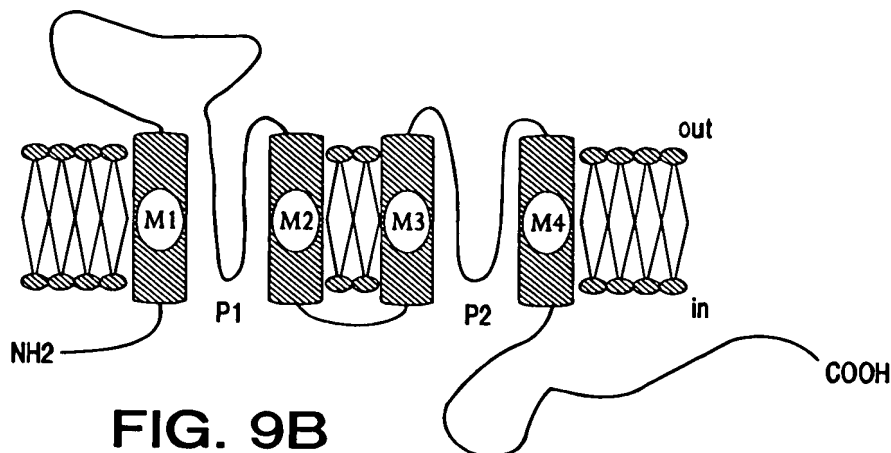


FIG. 9B

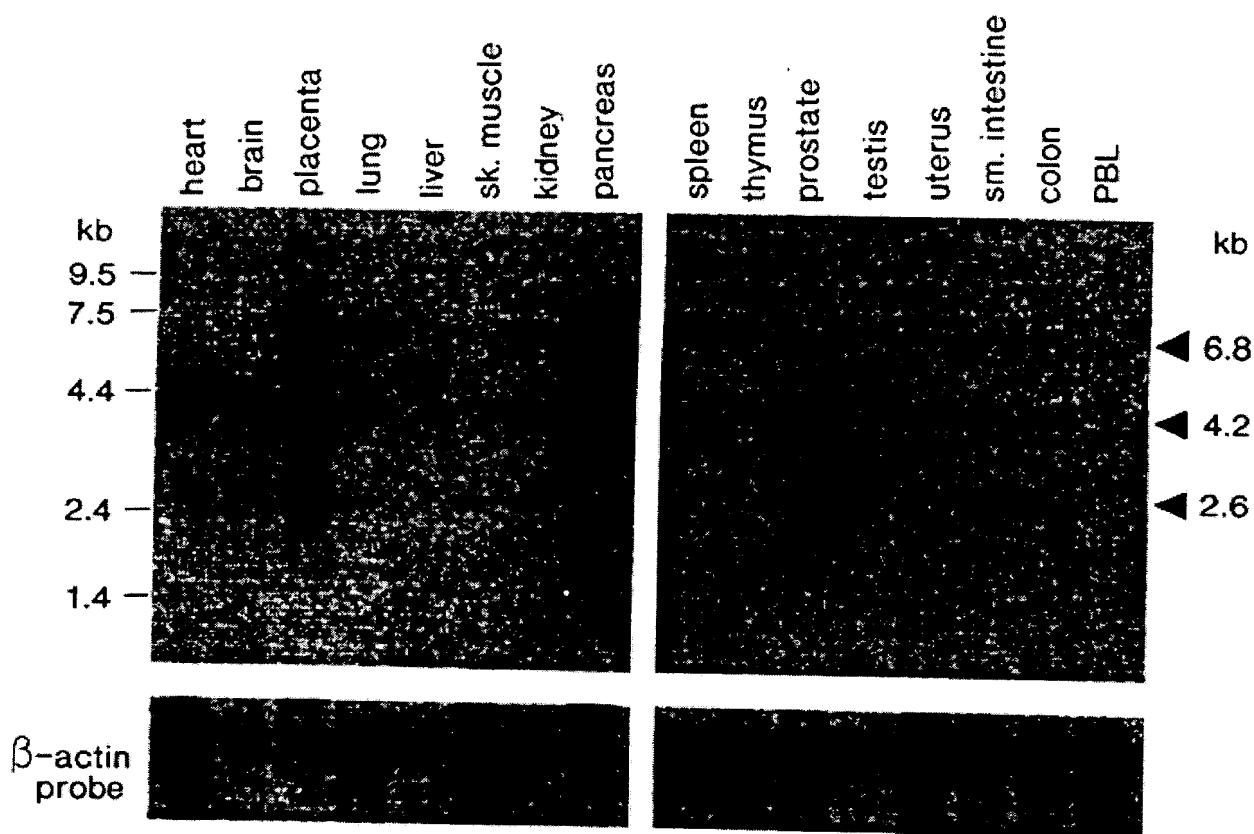


FIG. 10

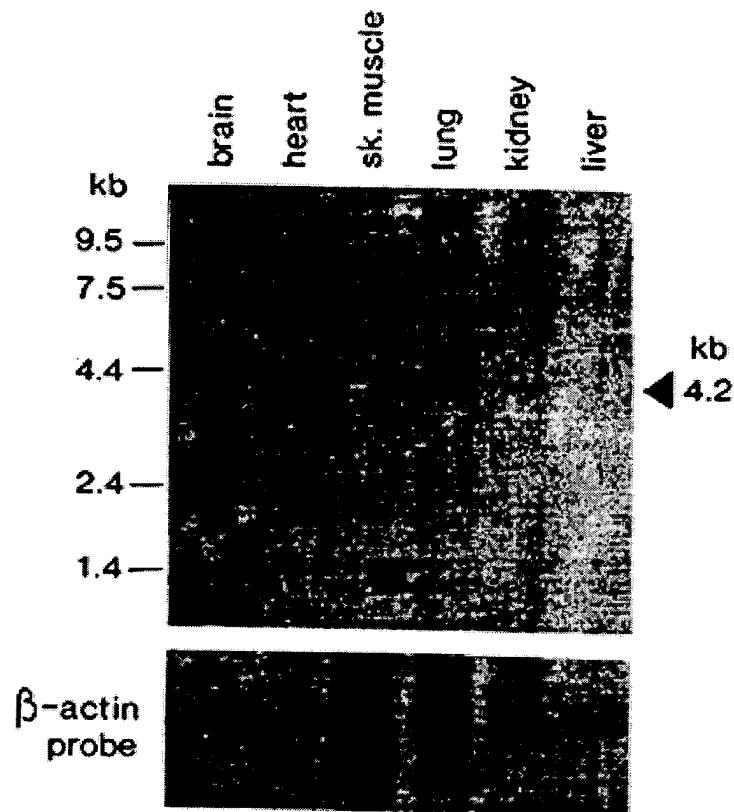


FIG. 11A

FIG. 11B

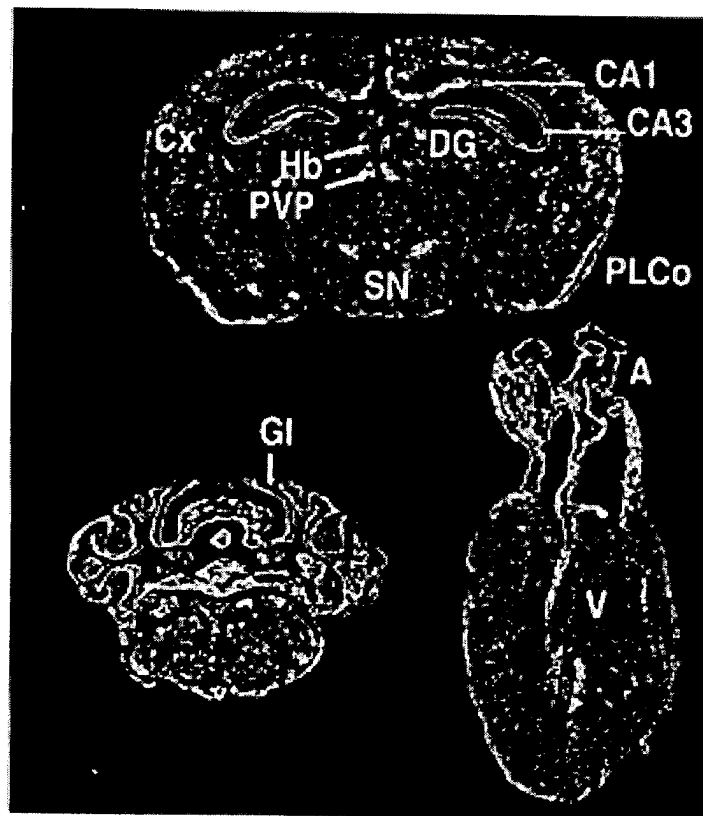


FIG. 11C

FIG. 11D



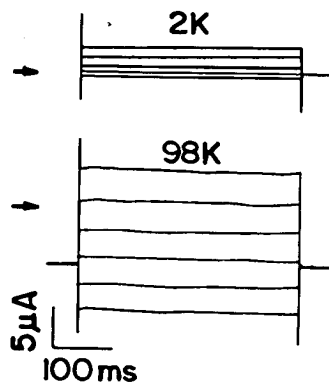


FIG. 12A

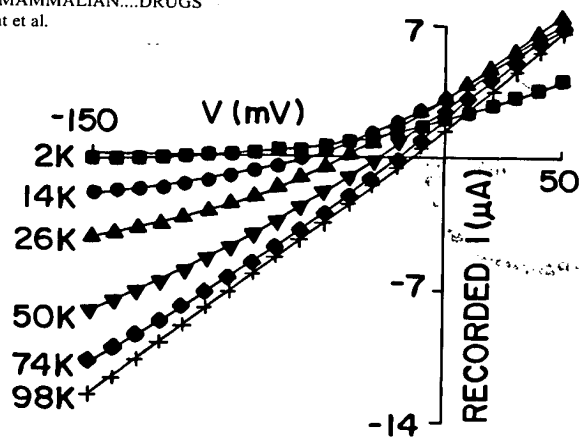


FIG. 12B

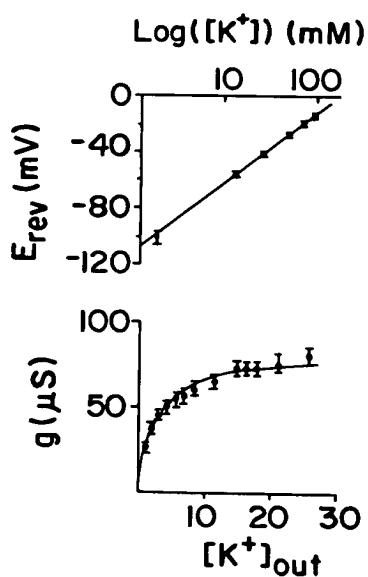


FIG. 12C

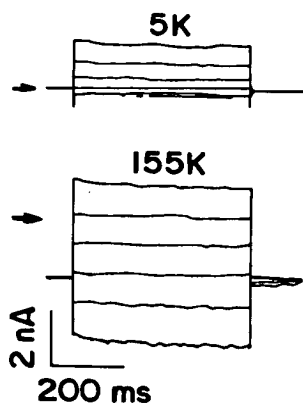


FIG. 12E

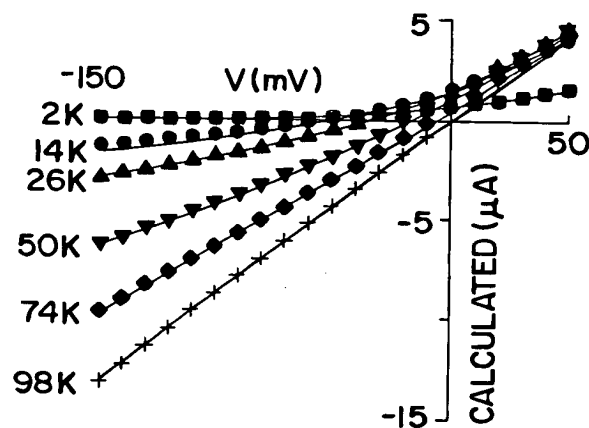


FIG. 12D

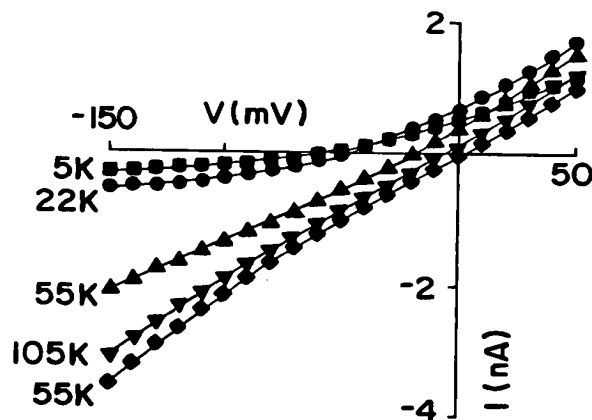


FIG. 12F

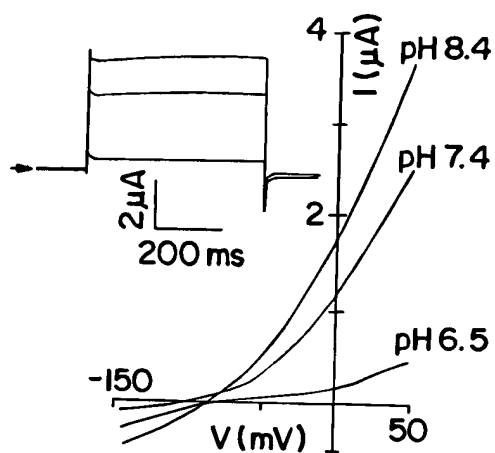


FIG. 13A

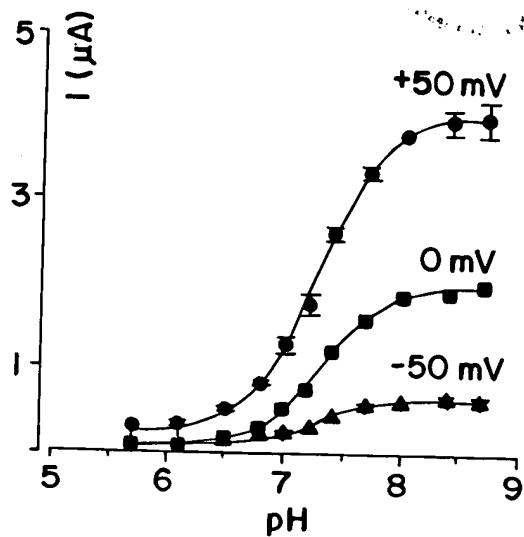


FIG. 13B

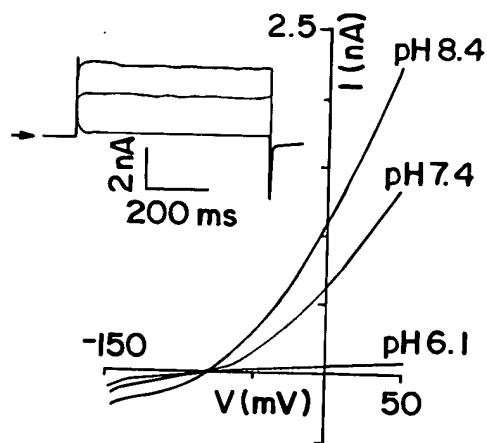


FIG. 13C

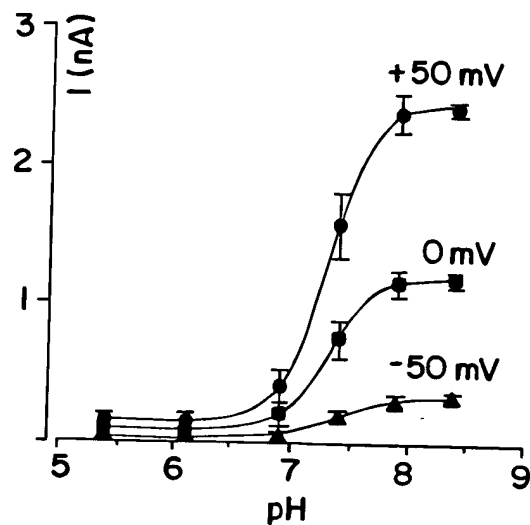


FIG. 13D